

Remarks

After the foregoing amendment, claims 1 – 57 are pending, with claims 1, 31, 33, and 57 being the independent claims. Claim 31 has been amended.

35 USC §102(b)

Claims 1 – 3, and 31 stand rejected under section 102(b) as being anticipated by U.S. Patent No. 5,930,704 (“Kay”). Applicant has amended claim 31 to clarify the subject matter of the invention.

The office action cites Kay as disclosing the step of storing system software in a plurality of current code sections. Upon close inspection, however, Kay does not teach this step. Kay discloses a device that has two separate and discrete flash memories, namely elements 310 and 312 in figures 15 and 19. These separate flash memories each hold a complete system software code section, with one holding the current system software and the other holding the previous version of the system software. In particular, Kay states that:

The reset state machine 316 determines which flash memory 310 or 312 contains the active code. The active code is the code that the microcontroller 276 executes. The other flash memory 312 or 310 holds the shadow code (i.e. code that is down-loaded from the central terminal). (Column 14, Lines 20 – 25).

Accordingly, the state machine 316 has the effect of restricting power-on boot up to a single flash memory assuming that this is present and operational, regardless of the previous operating scenario. In order to achieve this operation, a small section of the code in the flash memory must remain unchanged to ensure reliability in the event of a down-load failure. (Column 14, Lines 37 – 43).

Thus, it is evident that the separate flash memories of Kay do not teach the claimed step of storing system software in a plurality of current code sections.

Kay does teach that each flash memory comprises two sections. A boot-strap and loader code section and a main code section. These two sections, however are not both system software sections. The main code section is the system software while the boot-strap and loader code section helps to determine whether the main code section sharing the flash memory is the current version or not. For example, Kay states:

The boot strap and loader code section forms an independent executable segment which resides in the boot areas 610/612 of the flash memories 310/312. This segment initialises the ports of the microcontroller 276 and loads any code stored

in the flash memory for any other device supported by the communications controller. (Column 16, Lines 46 – 51).

Once the externalised services (parameters) have been registered, the BOOT_FindLoader of the boot-strap then performs software version checking. In other words it determine which code should be executed by comparing version numbers and checking a code checksum. (Column 17, Lines 31 – 35).

Accordingly, if the boot-strap loader section is active in determining which version of the system software is the current version, then it cannot be a part of that system software. Thus, Kay does not teach the claimed step of storing system software in a plurality of current code sections.

The office action also cites Kay as teaching the step of arranging the new code section with current code sections to form updated system software for the wireless device. Kay also does not teach this step. What Kay teaches is that a complete new main code section can be downloaded and installed to **replace** the prior main code section. In particular, Kay teaches:

More preferably, the subscriber station includes two memories for storing control code, wherein the communications controller is arranged to store successive updates of control code received from the central station alternately in the control memories, each update has an associated version number and the processor is arranged to execute the control code having the most recent valid version number. This facilitates successive updates to the programming of the subscriber station and the correct identification of the current version of the software for configuring the subscriber station. (Column 2, Lines 5 – 11).

Here, the successive updates going to alternate memories with each update having an associated version number, in combination with the above discussion that only the code from a single flash memory is executed, demonstrates that an update, with its associated version number, is the complete system software. Thus, an update as taught by Kay is a wholesale replacement of the system software.

The claimed step, to the contrary, requires that the new code section is arranged with the current code sections to form an update system software. Kay does not teach combining a new code section with the current code sections. Kay, in fact, teaches away from the claimed invention by disclosing that the software updates replace the system software in one of the two flash memories. Accordingly, Applicant asserts that independent claim 1 is presently in condition for allowance and a notice of allowance is respectfully requested.

Independent claims 31 and 33 include similar limitations and are therefore also presently allowable. Because the dependent claims further refine and limit their respective base claims, it is axiomatic that dependent claims 2 – 30, 32, and 34 – 56 are also in condition for allowance. Additionally, the office action relies on Kay as teaching similar elements of independent claim 57. Accordingly, Applicant respectfully request a notice of allowance for dependent claims 2 – 30, 32, and 34 – 56 and independent claim 57 as well.

35 USC §103(a)

In the Office Action, claims 4 – 30 and 33 – 57 have been rejected under 35 U.S.C. 103(a) as obvious with respect to Kay in view of U.S. Patent No. 5,790,856 (“Lillich”). The Examiner states that Lillich teaches forming the system software in to a first plurality of symbol libraries, each symbol library comprising at least one symbol, and arranging the first plurality of symbol libraries into a second plurality of code sections. The Examiner states that the combination of the two references makes the claimed invention obvious. This rejection is traversed as follows.

An invention is unpatentable if the differences between it and the prior art would have been obvious at the time of the invention. As stated in MPEP § 2143, there are three requirements to establish a *prima facie* case of obviousness.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant’s disclosure.

In the Office Action, no motivation has been supplied for combining the references. The subject matter of the claimed invention is related to wireless communication devices and updating sections of the system software via an airlink to devices that are deployed in the field. The Kay reference addresses similar subject matter. The Lillich reference, however, is directed toward desk top computer operating systems and patching desk top computer operating systems for personal computer systems such as the Macintosh Power PC.

There are very significant differences between wireless communication devices and desktop computers. For example, the amount of resources available to wireless devices is nowhere near that

which is available to a personal computer. The physical limitations on memory and power that are faced by engineers developing solutions for wireless devices constrain their ability to create such solutions. Furthermore, the operating systems for the two different types of computing platforms are universally different. Typically, custom designed operating systems are developed for wireless devices and vary depending on the various types of radios and user interfaces that make up the device. Thus, the solutions developed for desktop computer systems are, just like their operating systems, not applicable to wireless communication devices and there is no suggestion in Kay to modify the teachings of Lillich.

One particular example of this is found in Lillich which states in conjunction with Fig. 8:

The patch descriptor patch_1 646 includes an original routine pointer 650, a patch routing pointer 652, ordering information 654, an activation flag 656, a status flag 658, and a required patch flag 660. (Column 11, Lines 47 – 50).

This passage demonstrates, through its acknowledgement that the original routine (i.e., the one being patched) is preserved in memory on the computer and is pointed to by the original routing pointer 650. Such a monumental waste of system resources would not translate into the wireless device industry and is just one demonstration of how the combination of Lillich with Kay fails in view of the subject matter for the present art.

Furthermore, the Office Action itself has not provided a motivation to combine these diverse systems. The Applicant respectfully submits that the only logical connection between the references is the general concept of system software, and that the cited prior art is only modified in retrospect, in light of the present invention. That is, the obviousness rejection is based upon the Applicant's own invention characterization, not the modification of Lillich. In general, the combination of references made in the §103(a) rejection appear to be the result of keyword searches as opposed to a true nexus of related ideas in the same field of art.

"Therefore, an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue....To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that would create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no

knowledge of the claimed invention, would select the elements from the cited prior art reference for combination in the manner claimed.” *In re Rouffet*, 47 USPQ2d 1453, 1457-1458 (1998).

“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Further, the Examiner has still not demonstrated that the modification of the cited the prior art reference points to the reasonable expectation of success in the present invention, which is the second requirement of the obviousness analysis.

With respect to the third prong of an obviousness analysis, the combination of the references does not yield all the limitations of the claimed invention. The Kay reference discloses a wireless device having two discrete flash memories and that either may contain the current version of the system software. Kay further describes a boot routine to determine which flash memory has the current version and then execute the code in that flash memory. Updates to system software replace the data contained in the inactive flash memory. The Lillich reference discloses a method for patching software. The inventions in the claims depending from claims 1, 31, 33, and 57 all require that the system software of the wireless communication device be stored in a plurality of code sections. Lillich does not describe storing the system software in a plurality of code sections. Lillich merely describes the creation of a patch chain that redirects calls to functions in an application to the patch chain for execution. (Lillich, Column 9, Lines 30 – 41). Thus, the combination of Kay with Lillich still fails to suggest the claimed inventions. Since the combination of references does not include all the limitations of the inventions in the dependent claims, the Applicant requests that the rejection be withdrawn.

Additionally, in the Office Action, claim 32 has been rejected under 35 U.S.C. 103(a) as obvious with respect to Kay in view of U.S. Patent No. 5,699,275 (“Beasley”). The Examiner states that Beasley teaches a patch manager code section and receiving a new patch manager code section and replacing the current patch manager code section with the new patch manager code section. The Examiner further states that the combination of the two references makes the claimed invention obvious. Applicant respectfully traverses the rejection.

The Beasley reference, similar to the Kay reference, teaches a wireless communication device with two flash memories (flash bank 66 or flash bank 68 – see Column 6, Lines 57 – 58). As

the device receives patches that collectively represent a complete patch file, it initiates the patch process. If the device is currently executing out of flash bank 66, the patched system software is stored in flash bank 68. This is a redundant description of what Kay teaches. (Column 6, Line 57 – Column 7, Line 16).

The office action provides no motivation to combine the teachings of Beasley with Kay. Further, the Examiner has not demonstrated that the modification of the cited prior art reference points to the reasonable expectation of success in the present invention, which is the second requirement of the obviousness analysis. In fact, because Beasley and Kay teach the same method of maintaining discrete flash memories, executing the current system code from one flash and installing new code into the second flash, any modification of one with the other would result in the same disclosure.

Finally, the combination of Beasley and Kay fail to teach the invention of claim 32. Neither Beasley nor Kay teach a patch manager code section, receiving a new patch manager code section, and replacing the current patch manager code section with the new patch manager code section. Thus, the combination of Kay with Beasley still fails to suggest the invention of claim 32. Since the combination of references does not include all the limitations of claim 32, the Applicant requests that the rejection be withdrawn.

Amendments

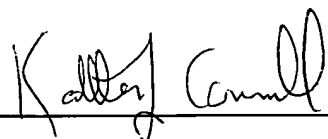
Claim 31 has been amended to clarify what applicant regards as the particular invention. In particular, the identified current code sections have been clarified to be a subset of the plurality of code sections. Applicant asserts that this is consistent with the original claim language and therefore the scope of the claim has not been narrowed. The original claim language claimed identifying current code sections [in the plurality of code sections] for updating. Thus, the “current code sections” in the original language was not coextensive with the “plurality of current code sections.” Rather the “current code sections” in the original language was “a subset of the plurality of current code sections” as claimed in the amended claim. Accordingly, applicant submits that the amendment to claim 31 is not a narrowing amendment under the definition thereof pursuant to Festo.

Conclusion

If the Examiner has any questions or comments regarding the above Amendments and Remarks, the Examiner is respectfully urged to contact the undersigned at the number listed below.

Respectfully submitted,
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Dated: July 20, 2004

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail on **July 20, 2004** in an envelope addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Name of Person Mailing Paper and/or Fee

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